

# ABSTRACT

The present invention relates to IR-sensitive compositions suitable for the manufacture of printing plates developable on-press. The IR-sensitive compositions comprise:

- (a) a first polymeric binder which does not comprise acidic groups having a pKa value less than or equal to 8;
- (b) a second polymeric binder comprising polyether groups
- (c) an initiator system comprising
  - (i) at least one compound capable of absorbing IR radiation selected from triarylamine dyes, thiazolium dyes, indolium dyes, oxazolium dyes, cyanine dyes, polyaniline dyes, polypyrrole dyes, polythiophene dyes and phthalocyanine pigments;
  - (ii) at least one compound capable of producing radicals selected from polyhaloalkyl-substituted compounds; and
  - (iii) at least one polycarboxylic acid represented by the following formula I



wherein Y is selected from the group consisting of O, S and NR<sup>7</sup>,  
each of R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> is independently selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, substituted or unsubstituted aryl, -COOH and NR<sup>8</sup>CH<sub>2</sub>COOH,  
R<sup>7</sup> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl,

-CH<sub>2</sub>CH<sub>2</sub>OH, and C<sub>1</sub>-C<sub>5</sub> alkyl substituted with -COOH,

R<sup>8</sup> is selected from the group consisting of -CH<sub>2</sub>COOH, -CH<sub>2</sub>OH and

-(CH<sub>2</sub>)<sub>2</sub>N(CH<sub>2</sub>COOH)<sub>2</sub> and r is 0, 1, 2 or 3, with the proviso that at least one of R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> comprises a -COOH group or salts thereof;

and

(d) a free radical polymerizable system comprising at least one member selected from unsaturated free radical polymerizable monomers, oligomers which are free radical polymerizable and polymers containing C=C bonds in the back bone and/or in the side chain groups,

wherein the following inequality is met:

$$\text{ox}_i < \text{red}_{ii} + 1.6 \text{ eV}$$

with ox<sub>i</sub> = oxidation potential of component (i) in eV

red<sub>ii</sub> = reduction potential of component (ii) in eV.